

CLAIMS

What is claimed is:

1. An upright vacuum cleaner having a base module and a handle pivotally mounted thereto for pivotal movement about a pivot axis between an upright stored position and a reclining use position;

the base module having a suction nozzle;

5 a filter bag is removably mounted to the handle for movement therewith;

a working air conduit between the suction nozzle and the filter bag;

a suction source mounted to one of a lower portion of the handle and the base module and in communication with the suction nozzle and the filter bag for moving dust-laden air between the suction nozzle and through the filter bag; and

10 a cyclonic dust separator mounted in the working air conduit upstream of the filter bag for separating larger particles from the dust-laden air before the dust-laden air passes through the filter bag.

2. The vacuum cleaner of claim 1 wherein the handle includes a rigid elongated tube that extends between the base module at a lower end and the filter bag at an upper end.

3. The vacuum cleaner of claim 2 wherein the cyclonic dust separator is mounted to the rigid elongated tube.

4. The vacuum cleaner of claim 3 wherein the filter bag is mounted at an upper portion to the elongated tube for recovering dirt from dirty air and extends downwardly therefrom along at least a portion of the elongated tube.

5. The vacuum cleaner of claim 4 wherein the cyclonic dust separator includes

a cyclone body having an inlet opening and an outlet opening, at least the inlet opening is connected to the rigid elongated tube upstream from the outlet opening, the cyclone body adapted to produce a cyclonic air current for separating

dirt contained in working air entering the cyclone body through the inlet opening;
and

10 a dirt-collecting tub removably mounted to the cyclone body for collecting
dirt separated from the dust-laden air by the cyclonic air current of the cyclone
body;

wherein the cyclonic dust separator separates larger dust particles and debris from the
dust-laden air before the dust-laden air is filtered by the bag filter.

6. The vacuum cleaner of claim 5 wherein the cyclone body further
comprises a dirt-separating grille having a plurality of holes between said inlet and outlet
openings.

7. The vacuum cleaner of claim 6 wherein the dirt-separating grille is
cylindrical and is axially positioned in the dirt-collecting tub.

8. The vacuum cleaner of claim 7 and further comprising an annular baffle
plate mounted to a bottom portion of the dirt-separating grille and extending laterally
thereof.

9. The vacuum cleaner of claim 8 wherein the annular baffle plate is frusto-
conical in shape.

10. The vacuum cleaner of claim 8 and further comprising at least one latch
for removably suspending the dirt-collecting tub from the cyclone body.

11. The vacuum cleaner of claim 5 and further comprising at least one latch
for removably suspending the dirt-collecting tub from the cyclone body.

12. The vacuum cleaner of claim 5 wherein the outlet opening is also
connected to the rigid elongated tube and the cyclonic separator is connected to the rigid
elongated tube intermediate the ends thereof.

13. The vacuum cleaner of claim 1 wherein suction source is mounted in the
working air conduit between the suction nozzle and the cyclonic dust separator.

14. The vacuum cleaner of claim 1 wherein suction source is mounted in the
working air conduit downstream of the filter bag.

15. The vacuum cleaner of claim 1 wherein suction source is mounted in the working air conduit between the cyclonic dust separator and the filter bag.

16. The vacuum cleaner of claim 1 wherein the filter bag is a conventional bag filter and is mounted in a bag filter housing that is mounted to the handle.

17. An upright vacuum cleaner having a base module and a handle pivotally mounted thereto for pivotal movement about a pivot axis between an upright stored position and a reclining use position;

the base module having a suction nozzle at a forward portion thereof;

5 at least one pair of wheels supporting the base for movement along a surface to be cleaned;

a filter bag mounted to the handle for recovering dirt from dirty air;

a suction source mounted to one of the handle and the base;

a working air conduit comprising a portion of the handle; and

10 a cyclonic dust separator comprising:

a cyclone body having an inlet opening and an outlet opening each connected to the working air conduit, the inlet opening being connected to the working air conduit in an upstream direction from the outlet opening, the cyclone body adapted to produce a cyclonic air current for separating dirt contained in working air entering the cyclone body through the inlet opening;

15 a cylindrical dirt-separating grille within said cyclonic dust separator between the inlet opening and outlet opening and having a plurality of holes through which working air passes between the inlet opening and outlet openings of the cyclone body;

20 a dirt-collecting tub removably mounted to the cyclone body for collecting dirt separated from the working air by the whirlpool air current of the cyclone body; and

an annular baffle plate mounted to a bottom portion of the dirt-separating grille and extending laterally thereof.

18. An upright vacuum cleaner having a base module and a handle pivotally mounted thereto for pivotal movement about a pivot axis between an upright stored position and a reclining use position;

the base module having a suction nozzle at a forward portion thereof;

5 at least one pair of wheels supporting the base for movement along a surface to be cleaned;

a working air conduit comprising a portion of the handle;

a cyclone dust separator;

10 a post-cyclone filter assembly in the form of a soft porous bag enclosing a filter bag that is in fluid communication with the working air conduit; and

15 a suction source mounted to one of the handle and the base, the suction source has an inlet fluidly connected to the suction nozzle and an outlet fluidly connected to the cyclone dust separator for drawing working air from the suction nozzle, and moving the working air through the working air conduit and the cyclone dust separator to the filter bag.